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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,949	05/22/2006	Adam Laiacano	kenco01.010	9274
7590 Gordon E Nelson 57 Central St PO Box 782 Rowley, MA 01969	09/21/2007		EXAMINER KINKEAD, ARNOLD M	
		ART UNIT 2817	PAPER NUMBER	
		MAIL DATE 09/21/2007	DELIVERY MODE PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Best Available Copy

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/579,949	LAIACANO ET AL.	
	<b>Examiner</b> Arnold Kinkead	<b>Art Unit</b> 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8, 10-12 is/are rejected.
- 7) Claim(s) 9 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 22 May 2006 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) Interview Summary (PTO-413)

Paper No(s)/Mail Date. \_\_\_\_\_

- 5) Notice of Informal Patent Application

- 6) Other: \_\_\_\_\_

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject-matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-8, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanier(US 6,320,472 cited by applicants) in view of Meadowlark optics(cited by applicants).

The reference by Vanier discloses an atomic frequency standard using an alkali vapor cell(see fig. 3); the circular polarized light is obtained by way of linear polarization and then using a quarter wave retarder for the circular polarization; the object here is to allow for desired fluorescence within the cell and the polarizers allow for the desired

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alkali atom transitions to take place. A laser is the source of light shown. THe method steps being inherent.

Thee reference does not several aspects of the orientation with regards the axis of polarization for the linear and the fast axis of the quarter wave retarder, nor does it show the a rotating quarter wave plate(retarder). The examiner will rely on the Meadowlark Optics reference to highlight conventional ideas.

With regards the latter point, that is, the use of a rotatable plate with a linear polarizer, the Meadowlark reference shows this in figure 5A, where a half wave plate is rotated to allow for the variable polarization. The same idea would follow for a quarter wave plate with respective phase shift changes. Note that in the same figure the axis is fixed about which the linearizer and plate are centered. Also note the 45 degree alignment as described in the descriptive para for the figures 5A,B.

The references do not specifically indicate the adjustment of the retarder for a desired intensity...however, figure 2 of the meadowlark reference does show that, at 45 degrees, (see quarter wave retarder description) does note that max light(intensity) is achieved as shown in the experiment of figure 2. So this indicates that as one rotates the plate the photodetection in Vanier would allow for adjustment of the laser to allow for an automated adjust.

In light of the above it would have been obvious for one of ordinary skill in the art to have recognized that the adjustment control of Vanier with photodetection could be modified by the use of a rotating quarter wave plate to allow an enhanced laser control due to the variable polarization as noted in Meadowlark.

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***Allowable Subject Matter***

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold Kinkead whose telephone number is 571-272-1763. The examiner can normally be reached on Hoteling.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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**Arnold Kinkead  
Sept. 14, 2007**

  
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